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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,305	01/04/2006	Takeshi Watase	282051US0PCT	8356

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EXAMINER
DUCHENEAUX, FRANK D

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
06/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/563,305	WATASE ET AL.	
	Examiner	Art Unit	
	FRANK D. DUCHENEAUX	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/3/2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-2; 4-8; 11-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2; 4-8; 11-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Examiner Note

In light of the new grounds of rejection set forth below, the following action is non-final.

Response to Amendment

1. Applicant's arguments, see page 15, filed 3/3/2009, with respect to the objection of claim 11 has been fully considered and are persuasive. The objection to claim 11 is withdrawn.

2. Applicant's arguments, see page 15, filed 3/3/2009, with respect to the title objection have been fully considered and are persuasive. The objection of title has been withdrawn.

3. Applicant's arguments, see page 15, filed 3/3/2009, with respect to the specification objection have been fully considered and are persuasive. The objection of specification has been withdrawn.

4. Applicant's arguments, see page 16, filed 3/3/2009, with respect to the rejection of claim 3 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claim 3 has been withdrawn.

5. Applicant's arguments, see page 16, filed 3/3/2009, with respect to the rejection of claims 5-6, 11 and 14 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claims 5-6, 11 and 14 has been withdrawn.

6. Applicant's arguments, see page 16, filed 3/3/2009, with respect to the rejection of claim 7 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claim 7 has been withdrawn.

7. Applicant's arguments, see page 16, filed 3/3/2009, with respect to the rejection of claim 14 under 35 U.S.C. 112, 2nd paragraph have been fully considered and are persuasive. The rejection of claim 14 has been withdrawn.

8. Applicant's arguments, see pages 12-13, filed 3/3/2009, with respect to the rejection of claims 1-2 and 4 under 35 U.S.C. 103(a) over Konish et al. (US 5539148) have been fully considered and are persuasive. The rejection of claims 1-2 and 4-6 has been withdrawn.

9. Applicant's arguments, see pages 13-15, filed 3/3/2009, with respect to the rejection of claims 1-6 under 35 U.S.C. 103(a) over Nagano et al. (US 5455116) have been fully considered and are persuasive. The rejection of claims 1-6 has been withdrawn.

Examiner Note

The examiner acknowledges cancellation of claims 3, 9-10 and 16-21 of the present application as annotated on page 11, lines 2-3 of the remarks section

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. **Claims 1-2 and 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (US 2005/0163983) in view of Sato et al (US 6448491 B1).

Regarding claims 1-2 and 4-6, Watase teaches a substrate which is a metal sheet (para. 0211, lines 5 - 7) upon which is disposed a thermal radiative coating with a thickness of 3 μm, 5 μm,

7 μm, and 10 μm (para. 0136-0137), said thermal radiative coating formed of a polyester resin (para. 0143, lines 1- 5). Watase also teaches that Fe, Co and Ni filler (magnetic metal powder) is added to the coating; also, that the filler is Ag and Cu filler (electrically conductive additive) (para. 0208, lines 1 - 4 and para. 0209, lines 1 – 3), whereby the content of the filler is 20% - 35% (anticipatory of the ranges of claim 5) and preferable adjusted to 45% or less, more preferably 40% or less, still more preferably 35% or less (anticipatory of ranges in claims 1 and 6) (para. 0210). Watase fails to teach a coating film containing 20-60 % mass of a magnetic powder or that said magnetic powder is a sendust powder.

However, Sato teaches an electromagnetic interference suppressing body having low magnetic transparency and reflection (title) for suppressing electromagnetic interference by undesirable electromagnetic interference (abstract), comprising a non-conductive soft magnetic layer (column 3, lines 62-66), which comprises an organic binder in which a soft magnetic powder is uniformly dispersed (column 4, lines 2-3), said soft magnetic powder is [SENDUST] (column 11, lines 53-57). Sato also teaches a soft magnetic paste containing soft magnetic powder at 70 weight parts in 55 weight parts of binder composition and 20 weight parts barium titanate, which is 70 pbw/145 pbw or approximately 48 wt% of the soft magnetic powder.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the thermal radiative metal sheet as taught by Watase with the soft magnetic ferrite powder in the proportions of the present invention as taught by Sato, since it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the weight

parts of the soft magnetic ferrite powder for the intended application since it has been held that discovering an optimum value of a result-effective variable involves only routine skill in the art (*In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980)) towards a coated metal sheet that not only provides thermal radiation, but also one that blocks the transmittance of interfering electromagnetic waves from egressing from and/or ingressing to an electronic device as in the present invention.

13. **Claims 7-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Watase et al. (US 2005/0163983) in view of Sato et al (US 6448491 B1).

Regarding claims 7-8, Watase teaches a substrate which is a metal sheet (para. 0211, lines 5 - 7) upon which is disposed a thermal radiative coating with a thickness of 3 μm, 5 μm, 7 μm, and 10 μm (para. 0136-0137), said thermal radiative coating formed of a polyester resin (para. 0143, lines 1- 5). Watase also teaches that Fe, Co and Ni filler (magnetic metal powder) is added to the coating; also, that the filler is Ag and Cu filler (electrically conductive additive) (para. 0208, lines 1 - 4 and para. 0209, lines 1 – 3), whereby the content of the filler is 20% - 35% and preferable adjusted to 45% or less, more preferably 40% or less, still more preferably 35% or less (para. 0210). Watase teaches a coated body comprising a substrate coated on the surface side and back side with thermal radiative coatings (para 0018) with said substrate consisting of a metal sheet (para. 0211, lines 5 - 7) where the content X, or mass %, of the blackening additives (para 0125, lines 5 – 7) is 5% and that no particular limitation is imposed on the upper limit of X

(> 10%) (para. 0134, lines 6 - 8). Watase continues to teach that a typical example of the blackening additive is carbon black with other examples including the oxides, sulfides and carbides of Fe, Co, Ni, Cu, Mn, Mo, Ag or Sn and black fine metal powder (para. 0141) and that the thickness of the thermal radiative coating is > 1 μm (para 0135). Watase further teaches the integrated emissivity standards as recited by applicant(s) (para 0091 - 0093) and that the blackening additive has an average particle size of 5 to 100 nm (para 0145, lines 1 – 2). Watase fails to teach a coating film containing 20-60 % mass of a magnetic powder or that said magnetic powder is a sendust powder.

However, Sato teaches an electromagnetic interference suppressing body having low magnetic transparency and reflection (title) for suppressing electromagnetic interference by undesirable electromagnetic interference (abstract), comprising a non-conductive soft magnetic layer (column 3, lines 62-66), which comprises an organic binder in which a soft magnetic powder is uniformly dispersed (column 4, lines 2-3), said soft magnetic powder is [SENDUST] (column 11, lines 53-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the thermal radiative metal sheet as taught by Watase with the soft magnetic ferrite powder as taught by Sato, towards a coated metal sheet that not only provides thermal radiation, but also one that blocks the transmittance of interfering electromagnetic waves from egressing from and/or ingressing to an electronic device as in the present invention.

14. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being obvious over Watase et al (US Patent Application Publication 2005/0163983) view of Sato et al (US 6448491 B1) and in further view of Nakao et al (US Patent 5945218).

Regarding claims 11-13, Watase and Sato teach the metal substrate with coatings on the both sides of said substrate, said coatings containing magnet material and black additives (see Watase/Sato claim rejections of claims 1-2, 4-6 and 7-8 above). Watase and Sato fail to teach a *resin coating film,* coated on the thermal radiative coatings, containing at least one of a white and luster pigment with a thickness of *0.05 to 10* μm or a *total mass % of from 1 – 25%*, said pigments being an *oxide pigment* and further said pigments containing *titanium oxide*. Watase/Sato also fail to teach a metal sheet that ***can*** satisfy an L Value of 44.0 to 60.0.

However, Nakao teaches a process for forming a multilayer film (title) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate - e.g. the resinous thermal radiative coating as taught by Watase – (column 1, line 67 and column 2 line 1). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight (column 3 , lines 44 – 53). Nakao further teaches an L value of 70 – 100 (column 4, line 12- 13). Clearly, the thickness, % mass composition and L values of the white coating as taught by Nakao constitute result-effective

variables and as such, as further demonstrated by Table 1 of column 8 of the reference, may be adjusted to yield a product of desired properties to fit a particular solution.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Watase/Sato with the additional coating as taught by Nakao in order to obtain a metal sheet with thermal radiative properties and an additional white resinous coating coated thereon to impart to the metal sheet a decorative appearance, chip and scratch protection to the more functional thermal underlayer, surface smoothness, hiding power, fingerprint resistance and the like.

15. **Claims 14-15** are rejected under 35 U.S.C. 103(a) as being obvious over Watase et al (US Patent Application Publication 2005/0163983) view of Sato et al (US 6448491 B1) and in further view of Nakao et al (US Patent 5945218).

Regarding claims 14-15, Watase/Sato teach the metal substrate with coatings on the both sides of said substrate, said coatings containing magnet material and black additives with the associated integrated emissivities (see Watase/Sato claim rejections of claims 1-2, 4-6 and 7-8 above). Watase/Sato fail to teach *resin coating film,* coated on the thermal radiative coatings, containing at least one of a white and luster pigment with a thickness of *0.05 to 10* μm or a *total mass % of from 1 – 25%*, said pigments being an *oxide pigment* and further said pigments

containing *titanium oxide*. Watase/Sato also fail to teach a metal sheet that ***can*** satisfy an L Value of 44.0 to 60.0.

However, Nakao teaches a process for forming a multilayer film (title) where a white coating comprising a thermosetting resin, a metal powder coated with a white pigment and a titanium dioxide pigment (column 1, lines 54-56) can be coated on a plastic substrate - e.g. the resinous thermal radiative coating as taught by Watase – (column 1, line 67 and column 2 line 1). Nakao continues to teach a white coating with a thickness of from 5 to 15 μm (column 3, lines 7 – 8) and a content of the metal coated with a white pigment from 0.1 to 30 parts by weight and the titanium dioxide pigment being from 1 to 200 parts by weight (column 3 , lines 44 – 53). Nakao further teaches an L value of 70 – 100 (column 4, line 12- 13). Clearly, the thickness, % mass composition and L values of the white coating as taught by Nakao constitute result-effective variables and as such, as further demonstrated by Table 1 of column 8 of the reference, may be adjusted to yield a product of desired properties to fit a particular solution.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Watase/Sato with the additional coating as taught by Nakao in order to obtain a metal sheet with thermal radiative properties and an additional white resinous coating coated thereon to impart to the metal sheet a decorative appearance, chip and scratch protection to the more functional thermal underlayer, surface smoothness, hiding power, fingerprint resistance and the like.

Response to Arguments

16. Applicant's arguments on page 13, filed 3/3/2009, regarding the rejections of claims 1-8 under 35 U.S.C. 102(e) over Watase (US 2005/0163983) have been fully considered.

Applicants' argue that Watase fails to disclose or suggest the limitation of independent claims 1 and 7 that " the magnetic powder is selected from the group consisting of soft magnetic ferrite powder, permalloy powder and sendust powder with said soft magnetic ferrite powder, permalloy powder and sendust powder having a characteristic of magnetic loss while the Fe and Ni powders of the Watase reference do not have a characteristic of magnetic loss nor does the reference teach microwave absorbability.

The examiner notes that while Watase is silent to the soft magnetic ferrite powder, permalloy powder and sendust powder limitations of the present invention, Sato et al teaches an electromagnetic interference suppressing body having low magnetic transparency and reflection (title) for suppressing electromagnetic interference by undesirable electromagnetic interference (abstract), comprising [SENDUST] in an organic binder, said [SENDUST] of approximately 48 wt%. Since the combined disclosures of Watase and Sato teach the compositional makeup as in the present invention, Watase and Sato inherently teach a coating with characteristic magnetic loss and microwave absorbability as in the present invention.

17. Applicant's arguments on page 15, filed 3/3/2009, regarding the rejections of claims 11-15 under 35 U.S.C. 103(a) over Watase et al. (US 2005/0163983) in further view of Nakao et al. (US Patent 5945218).

Applicants' argue that Watase in view of Nakao fails to disclose or suggest the limitation of independent claims 11 and 14 that " the magnetic powder is selected from the group consisting of soft magnetic ferrite powder, permalloy powder and sendust powder.

The examiner notes that while Watase/Nakao is silent to the soft magnetic ferrite powder, permalloy powder and sendust powder limitations of the present invention, Sato et al teaches an electromagnetic interference suppressing body having low magnetic transparency and reflection (title) for suppressing electromagnetic interference by undesirable electromagnetic interference (abstract), comprising [SENDUST] in an organic binder. As such, Sato remedies the deficiencies of Watase/Nakao, since the combined disclosures of Watase/Nakao and Sato teach the compositional makeup of independent claims 11 and 14 as in the present invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK D. DUCHENEAUX whose telephone number is (571)270-7053. The examiner can normally be reached on M-Th, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie E. Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FDD

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794